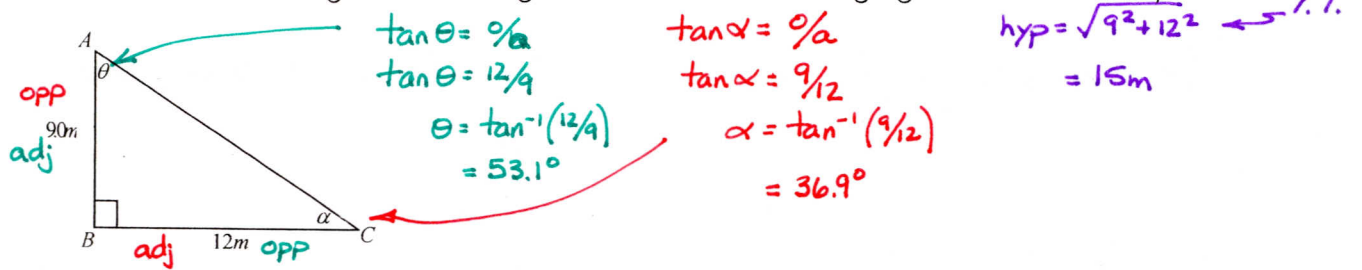
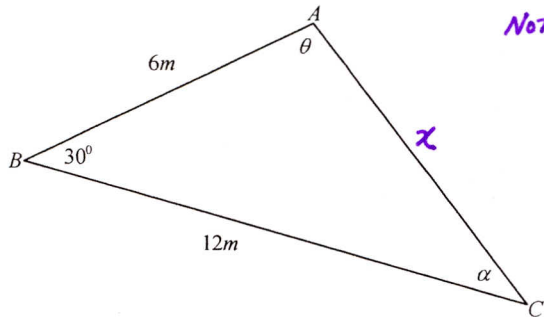


PRACTISING TRIGONOMETRIC FUNCTIONS

1. Find the two unknown angles and the length of the unknown side using trigonometric ratios only.



2. Find the unknown side for the following triangle using trigonometry.



NOT A 90° TRIANGLE \Rightarrow USE COSINE LAW

$$x^2 = 6^2 + 12^2 - 2(6)(12)\cos 30^\circ$$

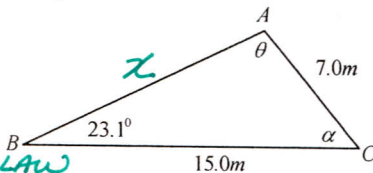
$$= 55.29$$

$$x = \sqrt{55.29}$$

$$= 7.44\text{m}$$

3. Find all the unknown quantities in each of the triangles shown below.

(A)



USE SINE LAW

$$\frac{7.0}{\sin 23.1} = \frac{15.0}{\sin \theta}$$

$$7.0 \sin \theta = 15.0 \sin 23.1$$

$$7.0 \sin \theta = 5.885$$

$$\sin \theta = \frac{5.885}{7.0} = 0.8407$$

$$\theta = \sin^{-1}(0.8407) = 57.2^\circ$$

$$1. \quad 90.8\text{m}, \theta = 7.6^\circ, \alpha = 82.4^\circ$$

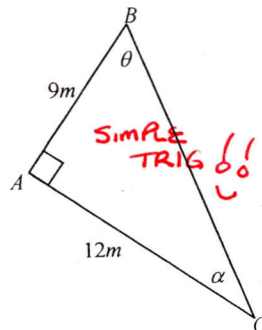
$$2. \quad 7.44\text{m}$$

$$3. \quad (A) \quad 17.6\text{m}, \theta = 57.2^\circ, \alpha = 99.7^\circ$$

$$(B) \quad 15\text{m}, \theta = 53.1^\circ, \alpha = 36.9^\circ$$

$$(C) \quad 26.0\text{m}, \theta = 30^\circ$$

(B)



SIMPLE TRIG !!

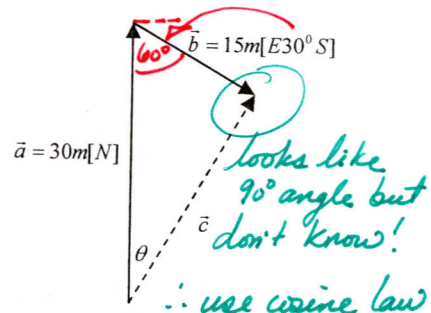
$$\alpha = 180 - 23.1 - 57.2 = 99.7^\circ$$

$$\frac{x}{\sin 99.7} = \frac{7}{\sin 23.1}$$

$$x \sin 23.1 = 7 \sin 99.7$$

$$x = \frac{6.90}{\sin 23.1} = 17.6\text{m}$$

(C)



$$C^2 = A^2 + B^2 - 2AB \cos C$$

$$= 15^2 + 30^2 - 2(30)(15) \cos 60$$

$$= 675$$

$$C = \sqrt{675}$$

$$= 26\text{m}$$